

# CEREAL RUST BULLETIN

Report No.7  
June 18, 2003

Issued by:

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- • Wheat stripe rust is widespread and more severe than last year throughout the central U.S.
- • Wheat leaf rust is light from South Dakota to Ohio.

Winter wheat harvest has begun from southern Illinois to southern Kansas. Most of the northern-planted spring small grains are at normal growth stage.

**Wheat stem rust.** There have been no new reports of wheat stem rust in the U. S. since CRB #6 infections were found in a plot in north central Oklahoma.

**Wheat leaf rust.** During the second week in June, trace-10% leaf rust severities were in breeding plots, and traces in fields of soft red winter wheat cultivars from northeastern Missouri to northwestern Ohio (Fig. 1). Leaf rust infections were reduced due to cooler than normal temperatures in the region and the presence of wheat stripe rust, which effectively competes for leaf tissue with leaf rust.

This year in Kansas, leaf rust was severe in the southern part of the state in late May on susceptible cultivars. In the second week in June in eastern Nebraska, low to moderate leaf rust severities were found in fields and plots. Drought-like conditions in areas like western Nebraska slowed leaf rust development.

In mid-June, low levels of leaf rust infections were observed on the flag leaves of hard red winter wheat at anthesis in an east central South Dakota nursery. In early June, leaf rust also was found in spring wheat cultivars in the South Dakota nursery.

In the second week in June, leaf rust infections were found in winter and spring wheat fields in the southeast and south central part of North Dakota. Most spring wheat crops surveyed were in the late jointing stage, while winter wheat was in early heading stages. Leaf rust severities in the fields ranged from 1 to 25%, with most fields at lower severity levels. Warm temperatures and high humidity will favor continued leaf rust development. In the third week in June, trace-10% leaf rust severities were observed at anthesis in susceptible winter wheat plots in east central Minnesota. Infections were noted on flag-1 and flag-2 leaves. Traces of leaf rust also were observed on the susceptible spring wheat Baart.



In early June, leaf rust severities ranged from trace to 15% on susceptible cultivars in a nursery on the eastern shore of Virginia. In mid-June, a plot of the cultivar Massey in northwestern Virginia had leaf rust severity of 80%.

**Wheat stripe rust.** In mid-June fields of soft red winter wheat cultivars from northeastern Missouri to southern Indiana had 40 - 80% stripe rust severities. Stripe rust severities of 80% were in a few fields in southern Illinois. In many of these wheat fields, stripe rust destroyed the flag leaves. In mid-June, from northwestern Ohio to north central Illinois, traces of stripe rust were observed in wheat fields. Stripe rust development in the northern soft red winter wheat growing area is greater than last year. This year favorable weather conditions (cool temperatures and moisture) and stripe rust inoculum from many infection sites in the southern soft red winter wheat areas, has allowed stripe rust to develop in the northern soft wheat area. Lower severities of stripe rust infections were found in northern Ohio and Indiana. The soft red winter wheat cultivars ranged from very resistant to fully susceptible.

In the second week of June in east central Minnesota, winter wheat plots had trace levels of stripe rust. A focal point of severe infection was found in a winter wheat plot in St. Paul. This indicates that stripe rust may have overwintered in Minnesota or arrived in late April or early May. In the third week of June, 60% severities were observed in susceptible winter wheat plots (e.g., Coker 9835) at the Rosemount Experiment Station in east central Minnesota. In other winter wheat plots severities ranged from 0 - 40%.

In mid-June, stripe rust was found in most fields in central and eastern Nebraska. In early June, wheat stripe rust was found in winter wheat and spring wheat nurseries in eastern South Dakota. In mid-June, stripe rust was found on flag leaves at anthesis. In some susceptible winter wheat lines (e.g., Trigo) stripe rust severity was 100%.

In early June, several major foci of stripe rust and frequent secondary foci that were limited to trace levels of severity were in the eastern shore nursery plots at Painter, Virginia. In mid-June, one small infection focus was found in plots in Warsaw, Virginia. This year stripe rust was found throughout Virginia but developed too late to cause significant damage to the wheat crop.

In mid-June, wheat stripe rust was developing rapidly in fields of susceptible spring wheat in eastern Washington. Some fields had incidence levels of 60% stripe rust with severity levels up to 20%. By mid-June, growers had started to apply fungicides on susceptible spring wheat fields. In mid-June, 50% severity levels were in irrigated plots of susceptible winter wheat varieties in the dry land area of central Washington. In plots of susceptible lines 60% severities were in a winter wheat nursery near Pullman, Washington. Most commercial winter wheat fields had low levels of stripe rust since these were resistant to stripe rust. Weather conditions have been conducive for rust increase in eastern Washington.

**Oat stem rust.** There have been no news reports of oat stem rust since CRB #6.

**Oat crown rust.** No crown rust was found in oat fields in southeastern Iowa.



**Buckthorn.** Throughout the upper Midwest aecial infections have been severe on buckthorn in most locations. Moderate crown rust infection was observed on upper leaves of oat in spreader rows close to the St. Paul, Minnesota buckthorn nursery.

Aecial development was less than in previous years in the buckthorns growing near the Cornell campus in Ithaca, New York.

**Barley stem rust.** There have been no new reports of barley stem rust since it was found in early April in southern Texas plots.

**Barley leaf rust.** In early June, 100% severities readings of leaf rust in barley were in susceptible lines in the eastern shore nursery in Painter, Virginia. Barley leaf rust was much more severe than wheat leaf rust at this location

**Stripe rust on barley.** In mid-June, stripe rust was increasing in experimental plots of susceptible barley varieties in the Palouse region of eastern Washington. Stripe rust may not be a problem in most barley fields in eastern Washington because most are planted with moderately resistant cultivars.

**Barley crown rust.** In mid-June, light barley crown rust was found in barley plots growing near the buckthorn in the St. Paul, Minnesota nursery.

**Rye leaf rust.** In mid-June, traces of leaf rust were reported in a rye field in southeastern Indiana.

**Rye stem rust.** There have been no reports of rye stem rust this year.

**Stem rust on barberry.** In mid-June, aecial infections were common on susceptible common barberry bushes (alternate host for stem rust) in southeastern Minnesota and south central Wisconsin.

*New Staff member, Dr. Yue Jin, Research Plant Pathologist joins CDL staff.*

Dr. Yue Jin joined the Cereal Disease Laboratory staff in late May. He will primarily work on stem rust of wheat, barley and oat. Please visit Dr. Jin's staff page (<http://www.cdl.umn.edu/personnel/Jin.html>) for contact information.



Fig. 1. Leaf rust severities in wheat fields - June 18, 2003

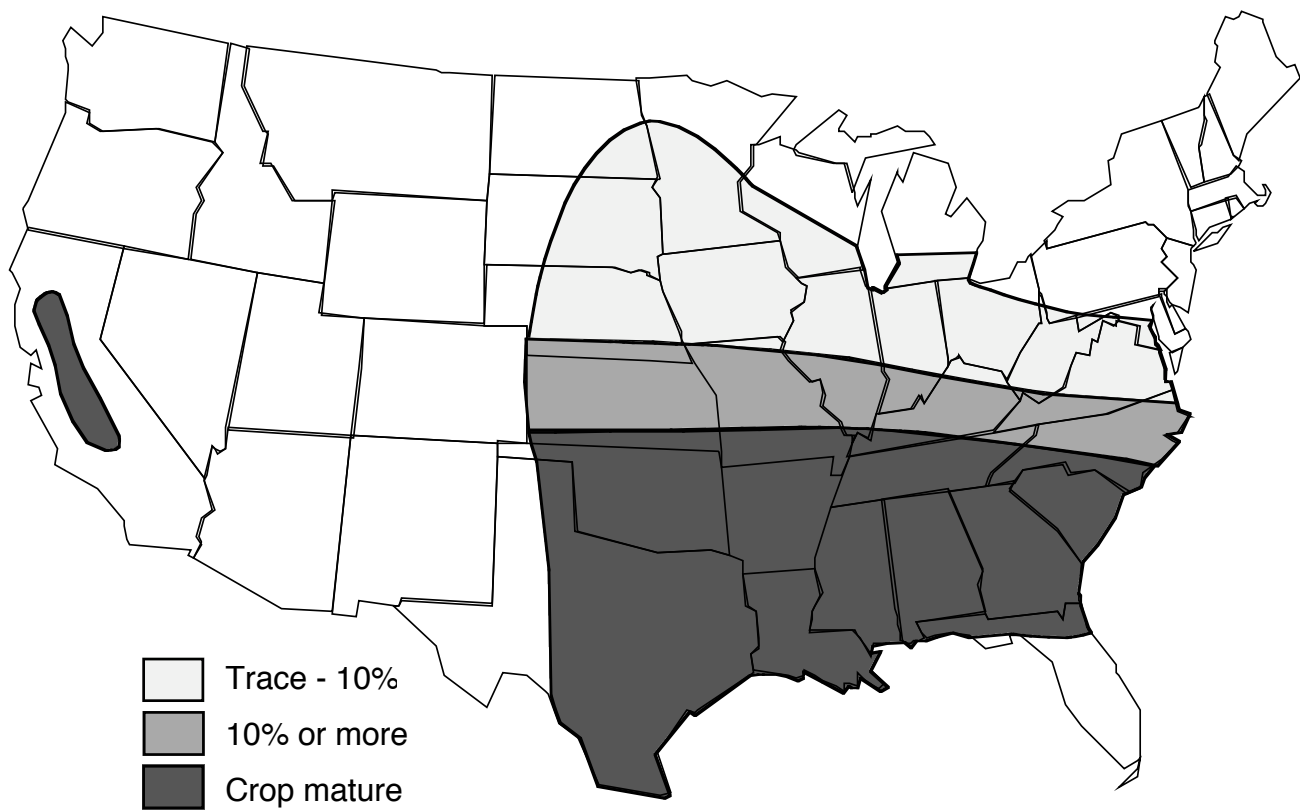


Fig. 2. Stripe rust severities in wheat fields - June 18, 2003

